

The Yamoransa Model Lab Program

ANNUAL PROGRAM REPORT

December 2021

PREPARED BY IMPLEMENTERS

The Yamoransa Model Labs Program

A Program funded by the Helping Africa Foundation.

The Helping Africa Foundation is a New York-based, U.S. 501© (3) public charity dedicated to improving health, education and social welfare conditions in Sub Sahara Africa.

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Japhet Aryiku, Executive Director

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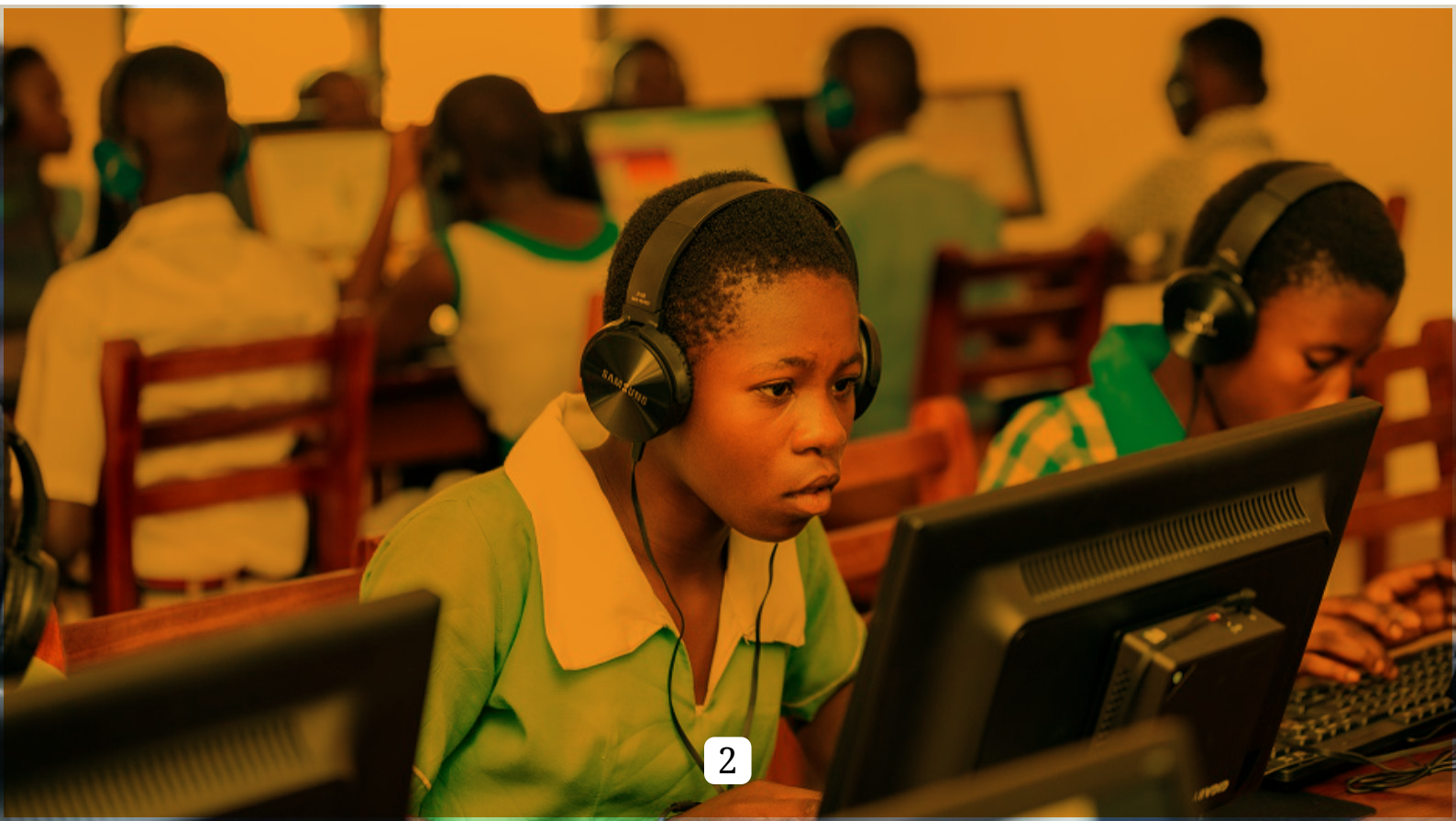
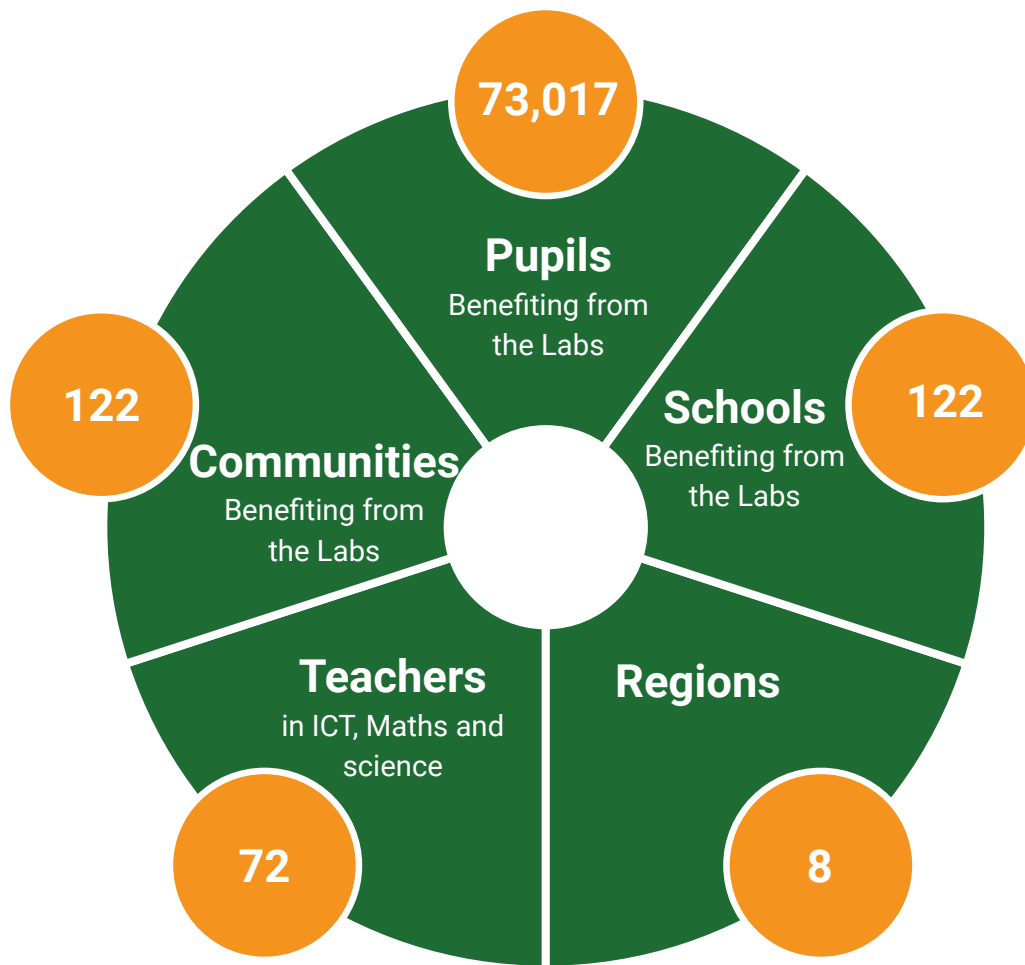
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The “Yamoransa Model” is a unique, ongoing partnership to encourage sustainable development.

Annual Impact Cycle



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Foreword

A message from the Project Director.

Meeting Dr. Deborah Rose and the Helping Africa Foundation would forever be an encounter of great significance in the operations of IMPLEMENTERS as the project management organization for the YM Portfolio, particularly the YM Lab Program.

The last five years since 2016 has provided us IMPLEMENTERS an opportunity to impact lives positively through the Yamoransa Model Labs Program. In line with the vision of the Helping Africa Foundation, to build at least a lab in each of the sixteen regions of Ghana, it is fulfilling that we have been able to achieve about 63% of the vision of HAF.



Leveraging on the strong foundation curated out of the vision of the Yamoransa Model Programs, we have successfully corporated with both private individuals, communities and government institutions to ensure these projects are effectively implemented and the aftermath of the projects left in good hands who are binded by our shared vision with HAF of impacting lives across Ghana.

Beyond implementing the vision and goals of HAF, our rigorous monitoring and impact assessment process has effectively shaped the model since 2016. Through our monitoring and impact assessment process, labs under the model have been kept under a common standard of progress with the labs lagging behind getting the right support to ensure they are up to the standard.

As we look forward to completing the remaining 37% of the Yamoransa Model Labs Program, the number of beneficiary communities and school would increase significantly, thus influencing the lives of many young Ghanaians who would be interested in taking careers in Science, Technology, Engineering, Arts and Mathematics due to their exposure to the YM Labs facilities.

With HAF sponsoring its first lab in the Gambia in 2021, I am positive other African countries like Ghana and the Gambia will experience this groundbreaking and life changing program by the Helping Africa Foundation in the coming years. This report showcases the activities of the YM Lab Program in 2021 and the impact the labs have achieved so far.

Finally, I am particularly excited about the many success stories that have been chalked by this program in the last five years. Beyond these success stories, I am glad this project managed by us is not just a white elephant but making a significant impact to education in Ghana especially in the rural areas. We look forward to creating a great platform that can be leveraged on through our first Annual Impact Roundtable Table Discussion (AIRTAD) to bring more partners on board to support this great initiative.

It is worth noting that, without the funding and support of the Helping Africa Foundation (HAF), the various private individuals and government agencies, the YM Labs would have been a vision only. We say ASEDA to all these stakeholders for their continuous support and funding!

Project Director at IMPLEMENTERS
Mr Kafui PREBBIE



Brief History of YM Labs

The Yamoransa Model Background

The Yamoransa Model (YM) is a unique, ongoing partnership to encourage sustainable development. The YM is funded by the Helping Africa Foundation(HAF) in partnership with Friends of Yamoransa Foundation (FYF) and managed by IMPLEMENTERS.

The YM originated with an idea to provide an ICT Center for the people of Yamoransa in 2012 through a Yale Alumni Service Corps Initiative. In 2016, the model finally evolved into a tool to empower communities to drive their development agenda through a well-structured process aiming at sustainable development. The model's portfolio has a wide range of components which includes projects and programs such as the YM Labs Program, the YM Vision Screening Project, the YM Livelihoods Project among others.

The YM Labs Program, an advanced initiative by the Yamoransa Model, aims at providing an opportunity for students to expand their knowledge in STEM education through practical experience. The Program provides selected communities with ICT Educational Centers equipped with educational content and multimedia as well as a space for robotics, AR/VR learning and 3D Printing. Students who get to use these labs are fully exposed to modern tech gadgets and educational content to facilitate their studies.

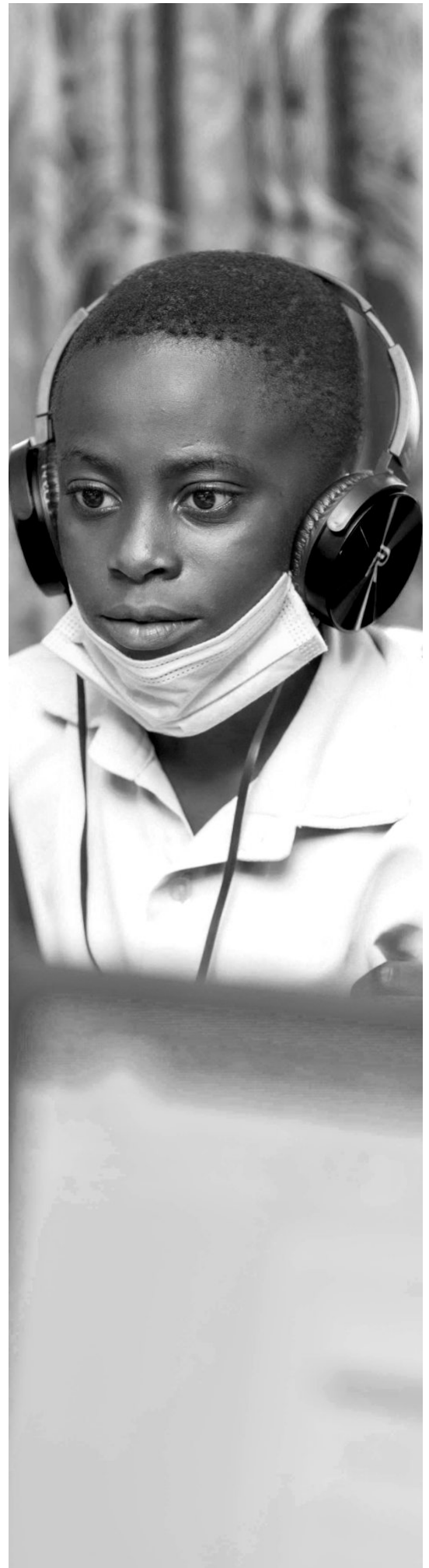
With an initiative to build educational labs all over the 16 regions of Ghana, the YM Labs Program has currently built 11 active labs in the Central, Greater Accra, Ashanti, Northern, Eastern, Volta, Oti, Western, Bono East and Ahafo Regions of Ghana. This completes 60% of the target with as of 2021. This completes 63% of the target as at 2021. The program is set to complete the final 37% by 2024.

Outside of Ghana, the Yamoransa Model - Gambia Educational Learning lab 1 project is the first Yamoransa Model Lab project outside Ghana. Through the support and influence of Madam Sukia Sey, a former student of the St. Joseph Secondary School, the Helping Africa Foundation has provided the school with two 25 seater EDULab, a makerspace and a conference room with all facilities being powered by solar energy.

The YM labs Program is managed by IMPLEMENTERS and technically supported by TECHAiDE.

Consistents of the YM Project

The basic components of each project includes an ICT center, a MakerSpace for Robotics, Legos, Augmented Reality (AR)/ Virtual Reality (VR) and 3D printing. Extra features include a conference room for training and workshops, offices for center managers and solar panels.



Map of the YM Labs



2021 in Review

The year 2021 is the year where the world was recouping from the effect – disruptions, pain, uncertainty, workplace changes, family matters, financial reposition, health systems revaluation - of the COVID-19 pandemic. The pandemic caused most governmental, corporate and individuals to escalate the value of the use of technology in all spheres of life.

Whilst most schools, students, parents and government were searching for the best ways to incorporate technology education in 2021, the Yamoransa Model had gone ahead to ensure that students from various regions in Ghana, regardless of their economic background, have access to equitable education.

Before 2021, the YM Labs Program had established 8 labs in eight (8) regions of Ghana. In 2021, the project added four (4) more labs: That is one (1) in another West African country - Gambia; two (2) in new regions of Ghana and 1 annex in a Senior High School located in a region that already has an a YM Lab. This is a great feat!

The Project year began with a needs assessment of the various regions. Implementers, the project managers of the YM Labs went to the various regions and assessed the various regions to identify a suitable community to receive the lab. With this, the team met with key stakeholders such as the Municipal/District Assemblies, Ghana Education Service, Traditional leaders, Political Leadership of the identified area in Bono East, Ahafo and Ashanti Regions.

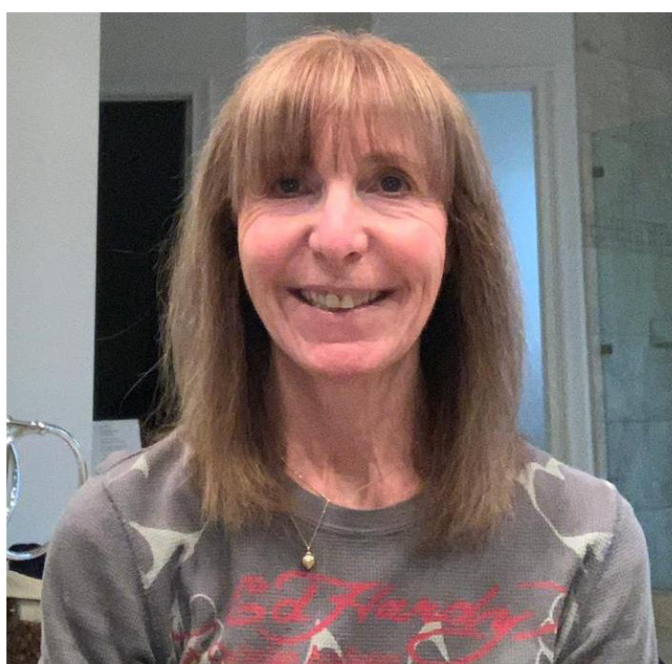
After the needs assessment, a report was sent to the funders for consideration. This assessment helps the funders -HAF, to ascertain the financial cost implications in building the lab in the chosen area. The funders then work with the report or recommend changes to the project. This is followed by the release of funds for the commencement of the project. All the YM Labs have a promoter who receives the project.

The promoter is responsible for the following

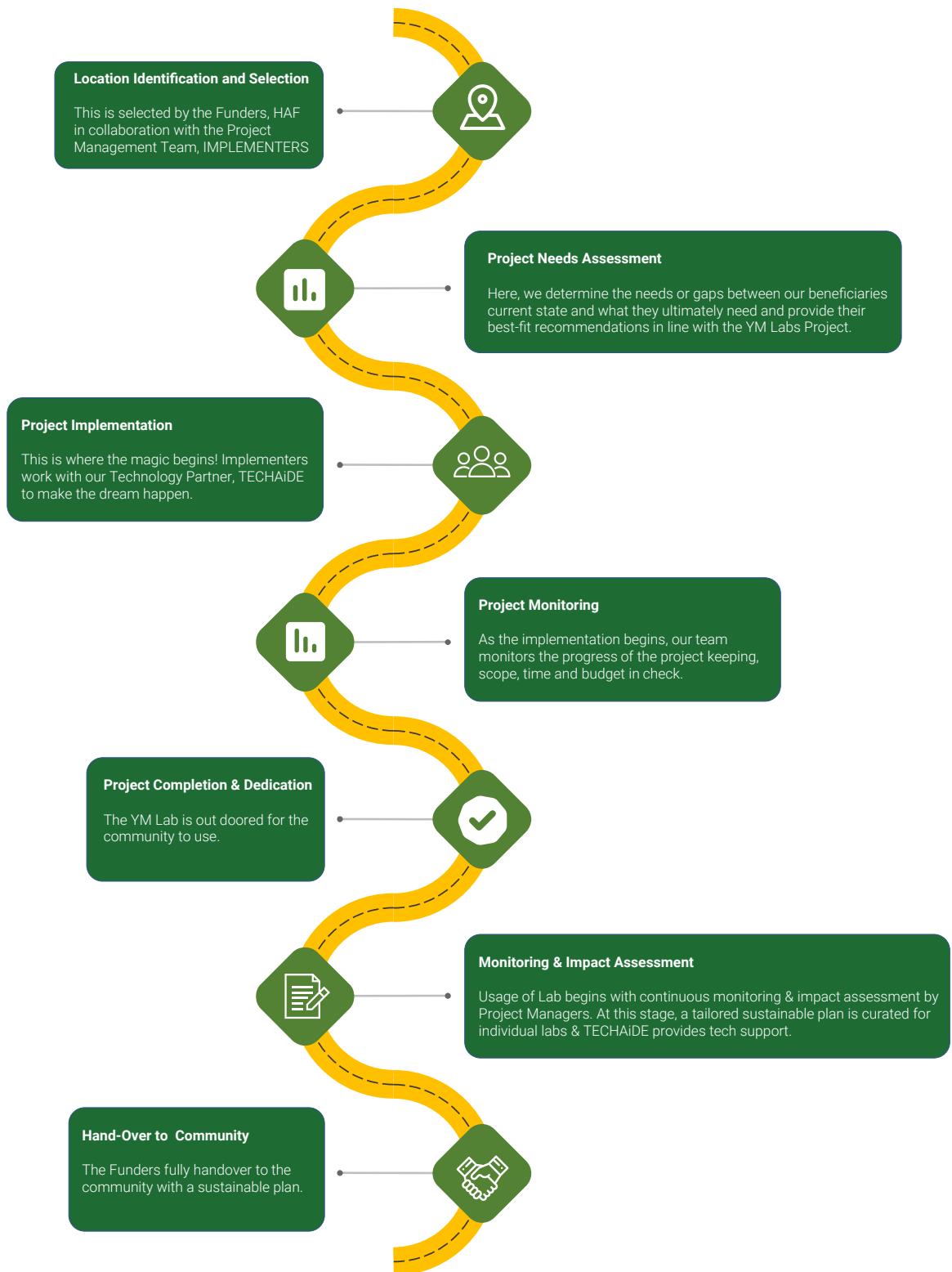
1. To lead the project initiative in the community
2. The promoter provides the fertile ground for the project execution.
3. Ensure the project site is ready for installation.
4. Ensure the success of the project even after dedication.
5. To provide auxiliary support to the project execution



The project team worked with the various promoters for the success of these four (4) projects in 2021. They are Madam Sukai Sey, Promoter for the Gambia Educational Learning Lab, Gambia; Mr Charles Amponsah and Madam Rona Mogil, Promoters for YM Lab 3.1 – the first YM Lab annex, Ashanti Region, Nana Kofi Anane Amponsah, YM Lab 9, Boma, Ahafo Region and Honorable Elizabeth Ofosu Adjare, YM Lab 10



YM Labs Project Roadmap



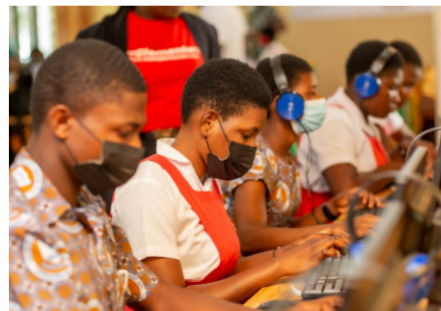
Generally, the 2021 newly established YM Labs comprises of



A minimum of a 50-Seater EDULab equipped with educational or multimedia content.



A Makerspace for robotics with AR/VR learning and 3D Printing facilities



A Conference Room equipped with seats and a projector.



Office supplies for the center manager which includes a desktop computer, a printer and furniture.

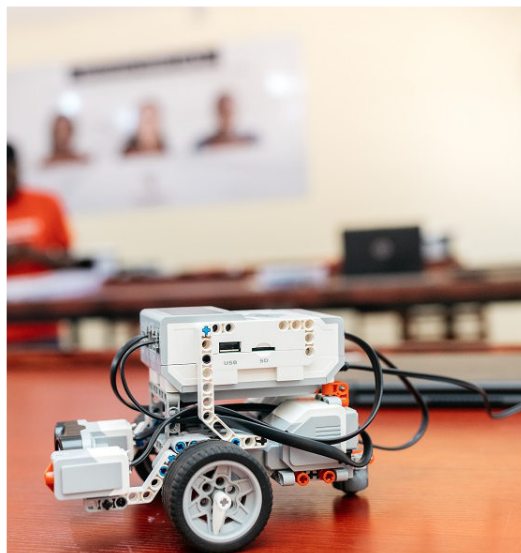
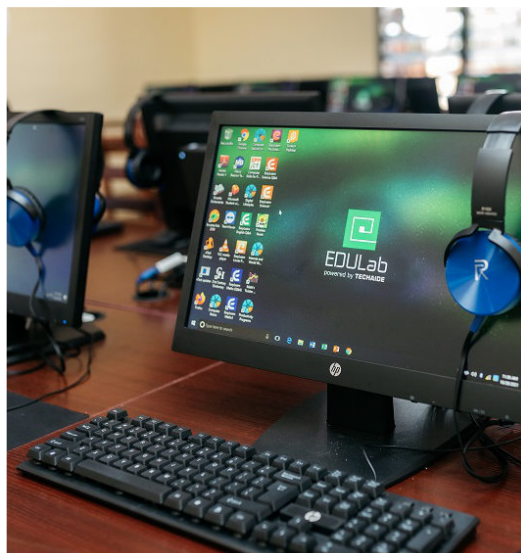
The Makerspace Refresher Training

The Makerspaces, a component embedded in the YM Labs Program, is a very essential component to making the youth of Ghana citizens of the world. Hence, initial training sessions are organized for each lab to ensure the trainers and managers are well equipped with the needed expertise to manage the center. To ensure that the center managers were abreast with the use of the equipment in the labs, a refresher training was organized for them from September 13 – 17, 2021 at the Yamoransa Model Resource Center, Yamoransa.

The training of all Center Managers (CM) together gave them the opportunity to interact with themselves and learn from each other. Technology is currently on the rise, and information sharing is highly essential to the advancement of technological skills. Each CM was able to broaden their horizon and take inspiration from their counterparts and ultimately contribute to a successful training session. Upon completion of the training session, the CMs were well equipped to facilitate internal training for the ICT Teachers within their catchment area. This will help reduce their workload and equally equip other ICT teachers. Also, the training provided them the opportunity to learn enough to prepare, plan and direct their students in preparation for the upcoming competitions in 2022.







Promoting SDG 4, The YM Labs Program

The Sustainable Development Goal (SDGs) adopted by world leaders at a UN Summit officially came into force on 1 January 2016. The SDGs form part of the 2030 Agenda for Sustainable Development, where the world seeks to eradicate poverty and promote standard development. The purpose of the SDGs is to ensure the universal growth and development of all countries.

Goal 4 of the SDGs is dedicated to promoting quality education to further socioeconomic mobility and serving as an escape route for poverty. The SDGs are universal but not legally binding on any country. Rather, it gives countries a primary responsibility to take charge of their future and growth as a country in these directions.

Considering the benefits of education and the enormous economic opportunities it gives, some non-governmental organizations have taken it upon themselves to help further the SDG 4 agenda in diverse ways in various countries.

The Yamoransa Model Lab Program is a unique development project funded by the Helping Africa Foundation (HAF) in furthering the SDG 4 through Science, Technology, Engineering, Arts and Mathematic (S.T.E.A.M). Paying heed to the level of imbalance in the educational sector due to the scarce resources of the country, this initiative with its efforts to complement governments works and education in Ghana has successfully built 10 ultramodern ICT labs in some 10 regions of the country with an Annex Lab called the Lab 3.1 at Asare Bediako Senior High School in the Ashanti Region of Ghana.

The Yamoransa Model Labs program started sometime back in 2016 at Yamoransa in the Central Region of Ghana. Prior to 2016, some service cops of the Yale Alumni group visited Yamoransa to assist in building an ICT facility for the community. In 2016, the Helping Africa Foundation (HAF) headed by Dr. Deborah Rose came into the scene and took over the building of the ICT facility from where it was left. Yamoransa became the first community to benefit from the vision of the HAF to influence sustainable development. Yamoransa being the first community to benefit from the program had the program named after the community as a symbol of the continuous relationship between the community and HAF.

Since 2016, the Yamoransa Model has been a tool to empower communities to drive their development agenda through well-structured processes aiming at sustainable development. The Yamoransa Model Labs program is one out of the model's portfolio which includes the YM Vision Screening and the YM Livelihoods Project among others.

The YM Labs program starts with a selection of project sites by the funders mostly done in collaboration with private individuals from the communities or government agency. The site for YM Lab 7 for example was selected through the collaboration of HAF and the Ghana Investment Fund for Electronic Communication (GIFEC) while the YM Lab 9 was selected through the collaboration of HAF and a private individual from the community called Nana Kofi Anane Amponsah, Ex- Asantefohene in New York, USA. The consultation between HAF, government organizations and private individuals is to encourage community participation and social collaboration since the model believes in community involvement in their development process.



Promoting SDG 4, The YM Labs Program

An assessment is then undertaken by the project managers IMPLEMENTERS, to assess if an ICT center is the community's need and their willingness to support the project. As a sign of support and interest in the project, the community provides different places as options for the ICT center to be sited and agrees to renovate the selected ones for the project. In other cases, like YM Lab 8 and 10, the community decides to build a new structure for the labs. A facility is settled on because of their closeness to the community schools, making it more accessible, the availability of space for the various compartments of the project, and largely because the structures are functional and suitable.

The YM Labs mostly comprises a 48 seater or two 24 seater fully furnished educational labs, a makerspace for Robotics, 3D printing, Augmented Reality, Virtual Reality, Legos, and Arduinos to provide the students with knowledge in Science, Technology, Engineering, Arts, and Mathematics (STEAM). The ICT computers are equipped with an Asanka device from an IT company in Ghana, TECHAiDE that provides the student with extra educational materials within the Ghana Education Service (GES) curriculum and outside the curriculum. The YM Lab 1 currently called the Yamoransa Model Resources Center (YMRC) and YM Lab 2 aside from having the standard components of a YM Lab have a home economics unit to equip students and the community with livelihood skills. To further ensure the labs are sustainable and effectively serving its purpose of education, the labs are solar powered to ensure the constant supply of electricity to the facilities.

The Yamoransa Model Labs as at August 2021 served about 122 communities, 122 schools, 17781 pupils, 72 teachers in ICT, Maths and Science in some 8 Regions of Ghana. These numbers are expected to grow significantly after the addition of 3 more labs in some two regions of Ghana in October 2021. The ultramodern ICT project since their dedication in the various communities has significantly improved the learning and teaching of ICT. Students in the past years have had a practical experience of ICT and have gone beyond to obtain practical knowledge on Robotics, coding, and related fields. Because the ICT Labs operates after school hours, students in the community have a digital library center where they can learn and further enrich their knowledge on ICT.

The YM Labs program financed by the Helping Africa Foundations' ultimate purpose is to provide good and quality education for the students while providing them with an avenue to obtain practical skills for their lives. This is to make them global citizens of the world and provide them with an opportunity for upward socioeconomic mobility while escaping poverty in fulfillment of SDG 4.



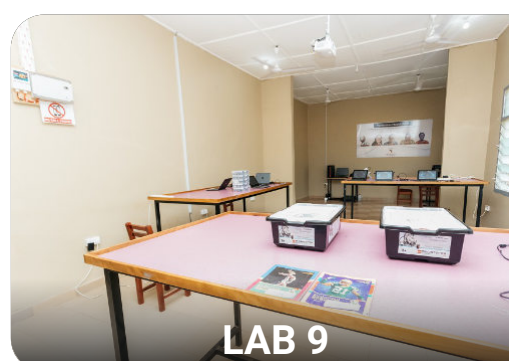
LAB 6



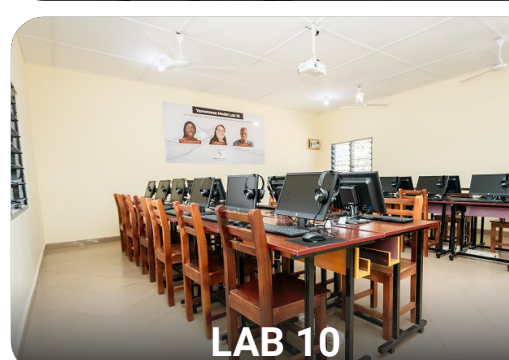
LAB 7



LAB 8



LAB 9



LAB 10



GELL

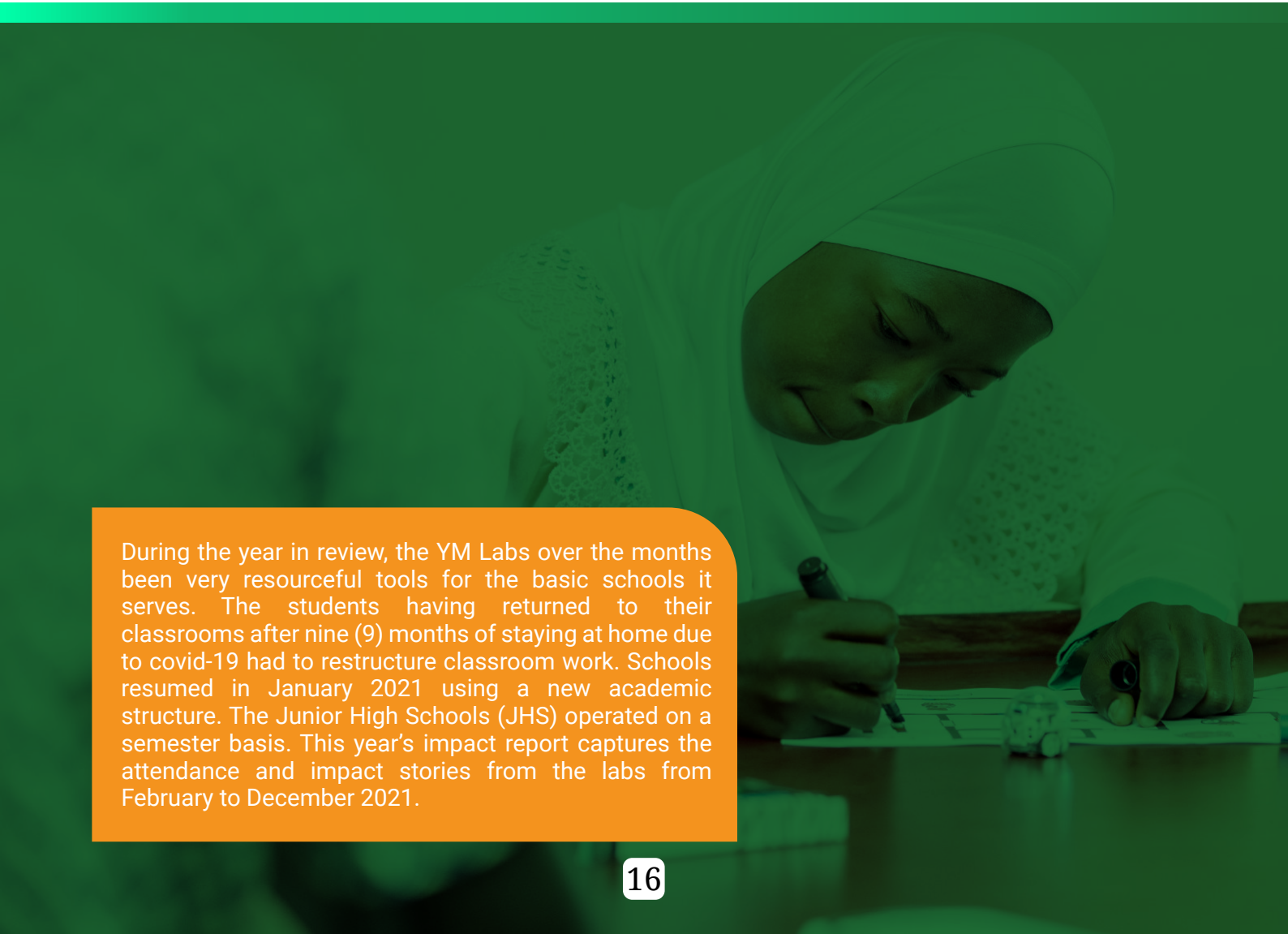
Monitoring and Impact Assessment

The YM Labs program is unique for so many reasons. This includes scheduled monitoring activities by the project managers. For the labs to be sustainable, they are monitored and through that gaps are identified, issues are resolved and resources are reallocated to ensure the success of the project. Through this period data gathered on a monthly basis helps the project managers to make informed decisions. This helps the seamless execution of tasks and activities of labs.

Throughout this year, there were 12 meetings with the Conveners/GES Reps and the Centre Managers/Teachers (Collectively called YM reps) who supervised and managed the labs. Through these meetings they share updates on activities of the labs, challenges and planned activities for the coming month that will aid the development of the labs. Also, they submit statistics of the lab usage, impact stories each month. Aside the general YM reps meeting, there were 24 Yamoransa Model Development Committee (YMDC) meetings in 2021. The YMDC is the first point of decision making body of the YM labs. This committee is responsible for making decisions that solves issues as they arise, create time table to order the use of the labs, solve various management issues and ensure proper management of the lab.

The labs are also encouraged to train other teachers in their districts/municipalities in various aspects of ICT and Robotics. The training is supposed to enhance the skills of other teachers. This year, there were 5 teacher training activities organised at various labs.

More so, the various labs are encouraged to organise internal competitions. The competitions motivate the students to become better, to arouse interest in the labs, foster innovation, develop creativity and skill sets, boost self-esteem and make them mentally strong. Three (3) labs were able to successfully organize competitions in 2021.



During the year in review, the YM Labs over the months been very resourceful tools for the basic schools it serves. The students having returned to their classrooms after nine (9) months of staying at home due to covid-19 had to restructure classroom work. Schools resumed in January 2021 using a new academic structure. The Junior High Schools (JHS) operated on a semester basis. This year's impact report captures the attendance and impact stories from the labs from February to December 2021.

12

Monthly meetings

24

YMDC meetings

5

Teacher training activities

3

Internal lab competitions

For 2021, February to December, a total of

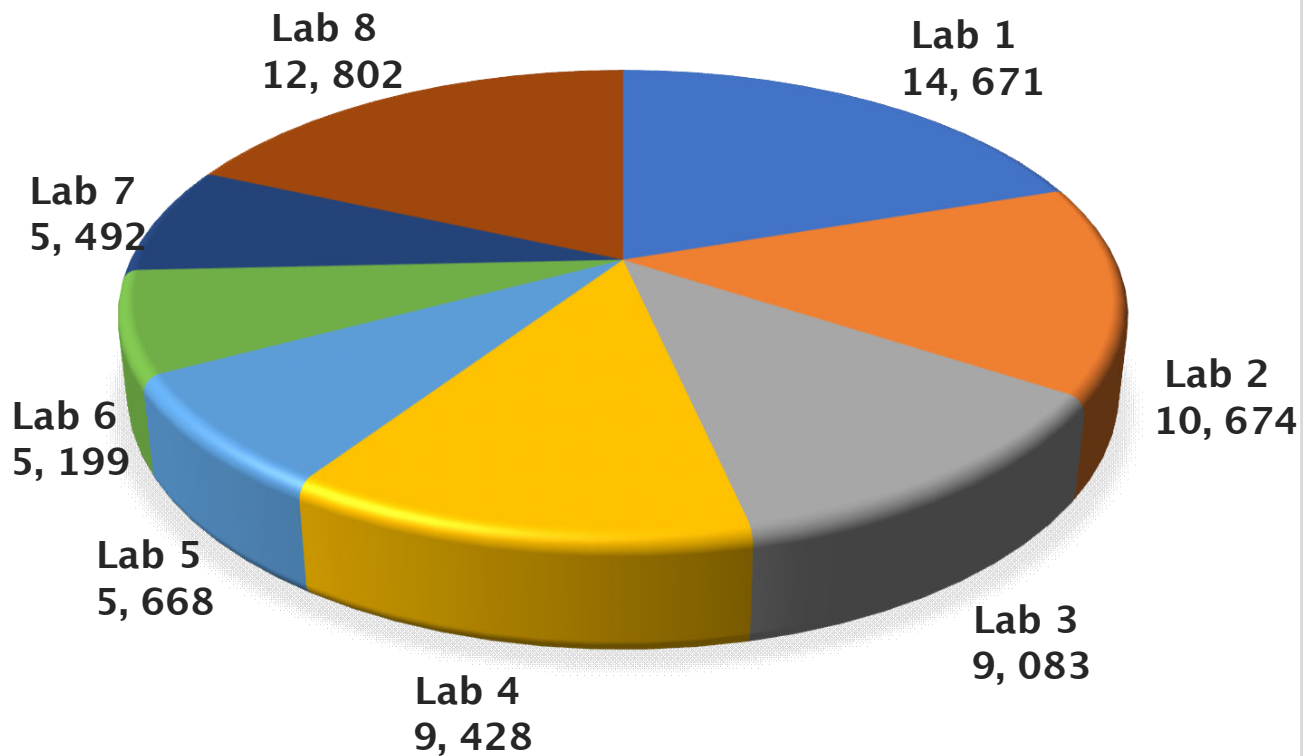
73,017

students used the labs in

8 regions

that is, Central, Greater Accra, Ashanti, Eastern, Northern, Oti,
Volta, Western regions of Ghana.

The YM Labs Statistics

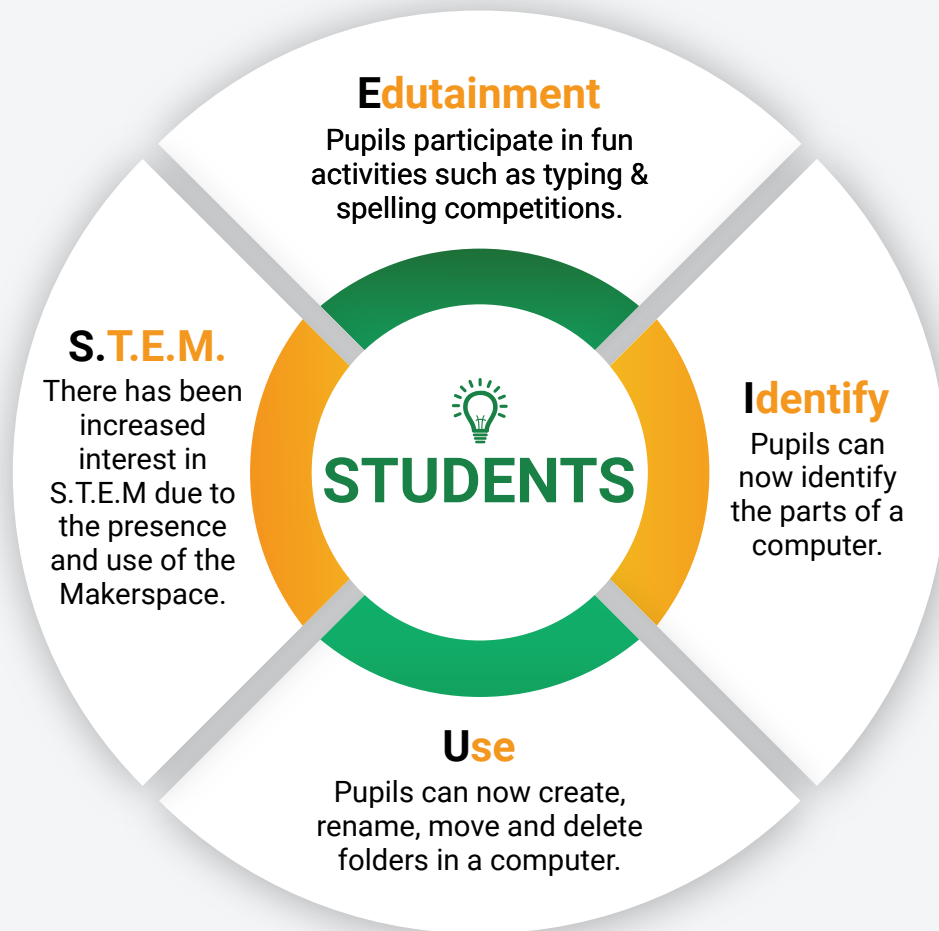


Interestingly, the YM Labs is gearing towards the attainment of gender parity when it comes to the lab usage. It is worth noting that 49.66% (36,258) of the students who used the labs were males and 50.34% (36,759) were females. This means the YM Labs have a strong gender inclusion and serves as a great platform that encourages female students in the areas of Science, Technology Engineering, Mathematics (STEM) as well as Information Communication and Technology (ICT).

This goes to show that the YM Labs project is greatly complimenting the government's efforts in retaining everyone in school and giving every school going child in Ghana an opportunity to affordable, good quality education which will further translate into an income-generation, employment creation and economic integration benefits to their communities and society as a whole.



Impact of the YM Labs



TEACHERS

Skills

The YM Labs do not only support pupils, but teachers.

Teachers, especially ICT teachers have increased interest in teaching using ultra modern equipment. Their skills have been well enhanced.

Also, the introduction of the robotics has enhanced their tech skills.

Self-Esteem

The YM Labs goes a long way to build the self-esteem of the teachers especially the Center Managers.

They find dignity in teaching using the equipment in the labs.

Contributions of the YM Labs to digital and STEM education in Ghana.

A significant quality of the YM labs is the Makerspace Centre. The centre has Ozobot, 3D printer, EV3 Lego Mindstorm, Arduino and Augmented/Virtual Reality among others which the students use as an extra curriculum activity.

In Ghana, ICT as a subject in basic schools became mandatory since 2007. By this all schools are required to register their students to sit for Basic Education Certificate Examinations (BECE). BECE is a general examination in Ghana where every school going child writes before they progress to the Senior High Schools. Though this had been made a required subject to be examined, not all schools had access to computers for teaching and learning. Most teachers had to teach the theoretical aspect of ICT without any practicality. Some teachers as seen on videos that have gone viral in the country over a couple of years have to improvise in so many unconventional ways to aid teaching.

To solve this issue, the YM Lab has successfully over the years collaborated with the government agencies to build labs in 10 regions of Ghana. The YM labs project is leading example of how non-governmental organisations can sustainably partner governmental organisations to develop any sector in the country.

Through the EDULab, students who hitherto had not accessed the computer in its parts can now comfortably identify and use the computers.

On robotics training, the students are engaged in various activities that they would not have had the opportunity to without the YM Labs. The makerspace is used as an extra curriculum activity where the students are thought how to assemble and code robotics to perform various tasks. They are able to learn various areas of STEM in a fun and engaging way as it exposes them to real-world application. These hands-on, minds-on activities help students understand how science and technology are useful in their world and make connections to careers they may not have considered.

On teaching, the teachers who are assigned ICT have shared that the YM Lab goes a long way to aid teaching.



HON ELIZABETH OFOSU-ADJARE
MP Techiman North

“ This site was selected after I was privileged to have met the Helping Africa Foundation executives and then they discussed the possibility of bring this innovation to the Bono East, specifically my constituency Techiman North. ... When we had the discussion, I was really excited when I saw other labs. I was told that, as the promoter, I was supposed to provide the building that would house all these gadgets, the beautiful ones that we see. I gladly agreed to do that because, if you get an organization bringing up all these things and your responsibility is to put up the building, I thought it was a fair deal but as i started the project, I realized how enormous the responsibility was so I had a discussion with Japhet and there again, Helping Africa Foundation, like their name came in handy to help me finish this project.”

Promoter for YM Lab 10, Tuobodom

NANA KOFI ANANE AMPONSAH
Ex - Asantefuohene New York USA

Mr. Japhet Aryiku and I are on a board in New York, The National Council of Ghana Association. We are board members so when we go for meetings, we meet. So when he had the opportunity to build 16 Labs across Ghana and they did one in Oti Region I think. When I saw it, I called him and said I would be happy to have one of the labs in my hometown and he said yes, we will do it. True to his words, we spoke and today we have this great facility in my community”

Promoter for YM Lab 9, Bomaa



SUKAI SEY

I witnessed other commissioning in Ghana and I was a little jealous inside, I was thinking to myself, oh my goodness we need such project in the Gambia and then two days before we left Ghana, the Executive Director of HAF looks at me and says Sukai, identify a school in the Gambia and we may be able to open one lab for you. So I was so escatic - and that is how we got this amazing 48 seater computer lab and a makerspace lab fully powered by solar energy!”

Promoter for GELL





MADAM HANNAH COKER

PRINCIPAL, ST. JOSEPH'S SNR SEC SCHOOL, The Gambia

" About three or four years ago, there was only one place they could go for this. In St. Joseph we have an enrollment of 530 and out of that huge number, it was only 6 girls who could go for this course in robotics and coding and the like. So to have our own robotics hub means we are improving on access for a whole lot of schools"

" We have learnt from it, we have built new partnership, we have expanded our network and we hope this partnership, this great partnership will live on forever"

OSGOOD TAWIAH

STUDENT, Asare Bediako Senior High School, Akrokerri, Ashanti Region [Lab 3.1]

" Before this makerspace, I have never get in touch with this machine before, not even using this, I have never even seen some before. But when this one came, I am now able to operate it, I am now able to create a robot myself, I now know how robots work"



MR ERIC ANARFI

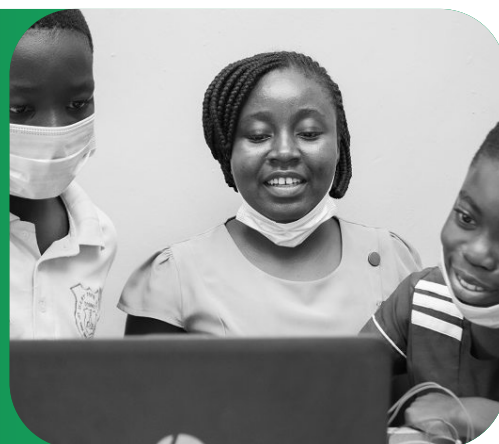
Coordinating Director Tano North Municipal

"When we heard that this facility is coming here, and it was coming to support us in the field of ICT, we were happy because we already know the existing ICT Labs in our schools lack machines. Most of them don't have adequate computers, so if this lab is coming here to help a whole circuit, then it means it is coming to relieve us because you know, government cannot do all this alone, so the assembly cannot supply all the education need, that's why we were happy to welcome this project to the municipality."

BENEDICTA POKUA DICKSON

Center Manager (Makerspace)

" We know that we are in a technological world and life keeps advancing. So the makerspace is going to give learners a room to bring out their creative working with the Arduino boards, ozobots boards, working with the VR, working with the 3D machine. They would also be given the opportunity to bring out any creative skill they would want to exhibit and i think this is going to help our country in the end "





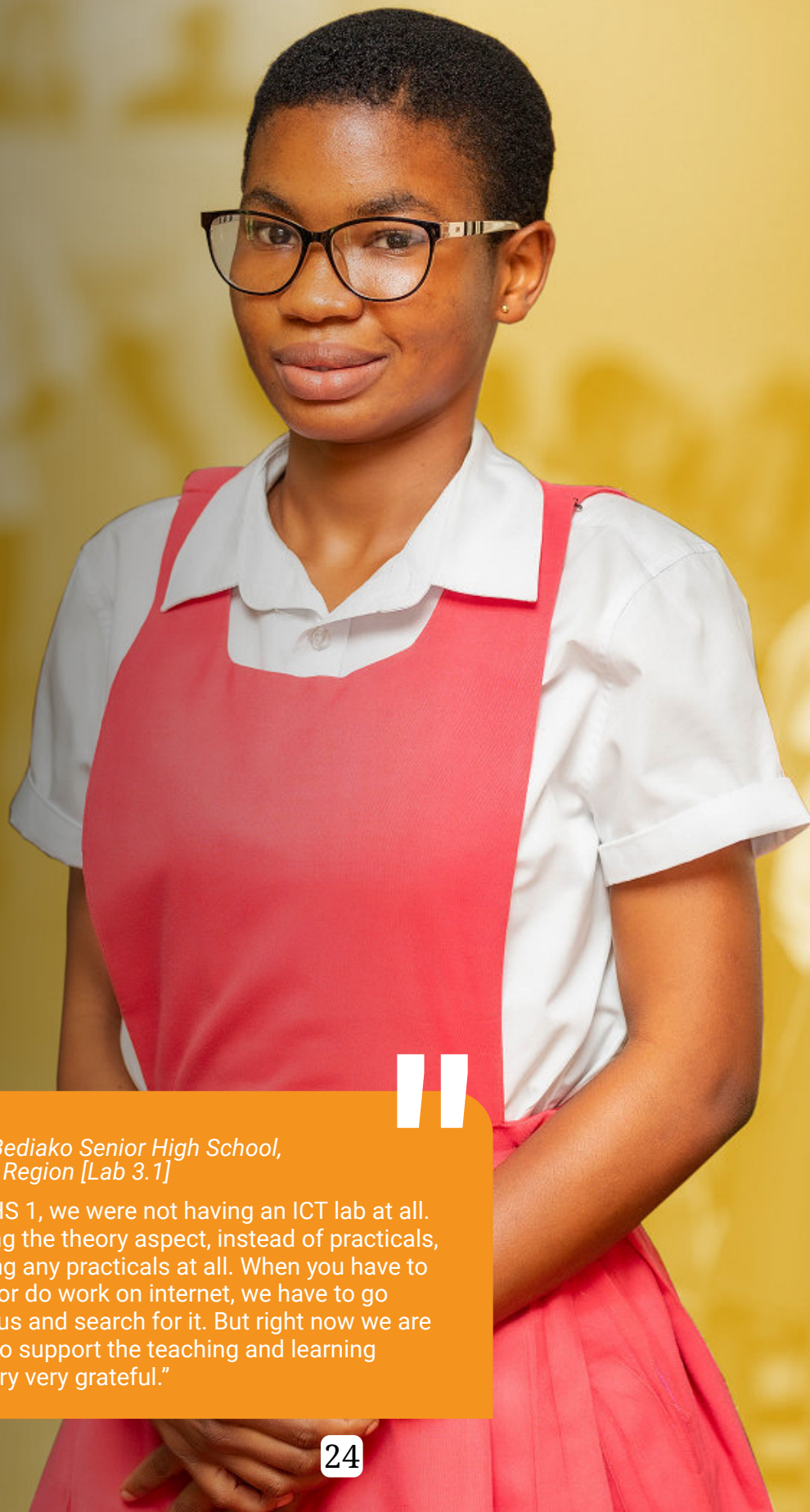
MADAM VERONICA ADU SAFORO
Municipal Education District, Tano North

“ GES, we were expected to assign center managers, to this facility and also give out teacher who would be trained for the computer literacy, so we did that and all other organization including getting the building, supporting the assembly in doing their renovation, we did whatever they asked us to do”



”

Helping Africa Foundation have established new educational practical branch called the Makerspace which is the upgrade of robotics. It is amazing to our sight.



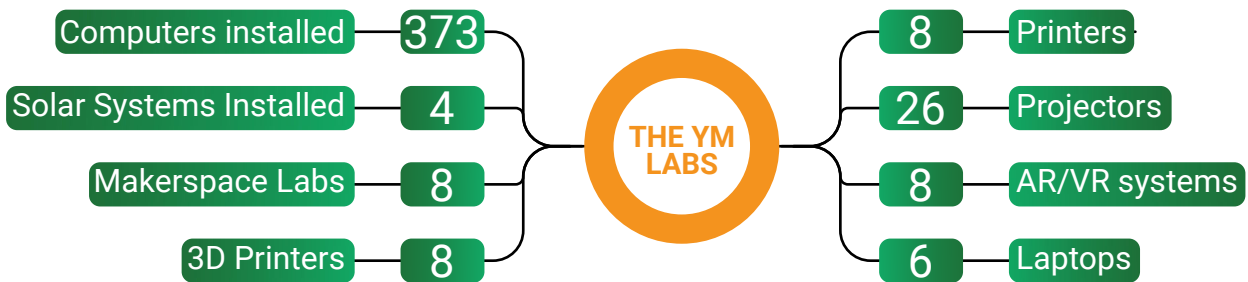
BETTY ASIEDU

*STUDENT, Asare Bediako Senior High School,
Akrokerri, Ashanti Region [Lab 3.1]*

“When I was in SHS 1, we were not having an ICT lab at all. We will be studying the theory aspect, instead of practicals, we were not having any practicals at all. When you have to search for words or do work on internet, we have to go outside the campus and search for it. But right now we are having an IT Lab to support the teaching and learning aspect. We are very very grateful.”

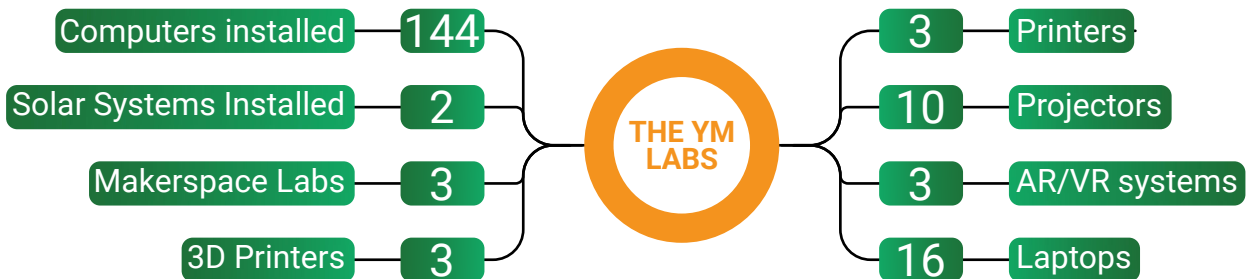
THE YM LABS STATISTICS (1-8)

This provides a collective summary of all the resources available in the YM Labs (Labs 1 – 8)



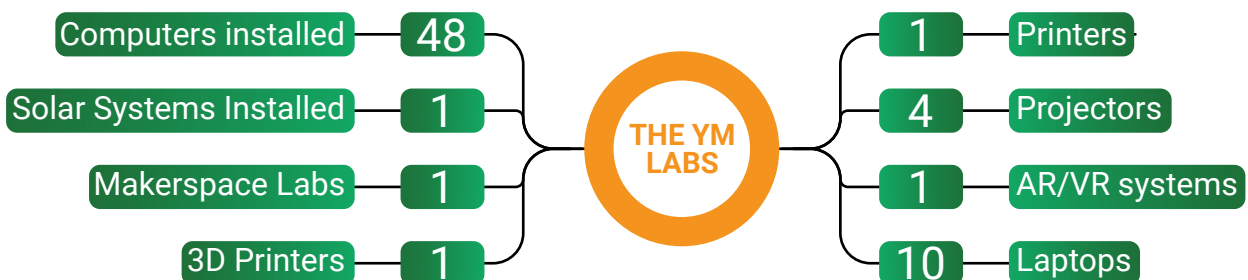
THE YM LABS STATISTICS (3.1, 9 & 10)

This provides a collective summary of all the resources available in all the new YM Labs (3.1, 9 & 10)



THE YM LABS STATISTICS (GELL)

This provides a collective summary of all the resources available in all the Gambia Learning Lab, Banjul



Technical support

The YM Labs operates on a sustainable model where by the equipment in the various are maintained regularly. To enable the efficient maintenance and operation of the labs, tech support has been arranged for all the labs. Through that, every technical issue raised by the Center Managers is resolved as soon as possible. During this reporting period, the labs received tech support on three occasions. This tech support was provided by the technology partner of this project – TECHAiDE.





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“We can't thank you enough. A great and amazing woman Rona Mogil, we thank you very much. Helping Africa Foundation, you have invested so much to uplift Asare Bediako Senior High School. You have blessed Asare Bediako SHS with Yamoransa Model Lab 3.1. You have blessed Asare Bediako with a Robotics center. What a wonderful gift. Helping Africa Foundation, we can't thank you enough. You have added Asare Bediako to the global village.”

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